

REMARKS

In the Office Action, the pending claims (i.e., claims 1-4 and 13-21) were rejected as being obvious over the combination of U.S. Patent 6,650,318 to Arnon and U.S. Patent 7,259,747 to Bell. Applicant traverses the rejection.

Independent claim 1 is directed to a system for detection of an object in an area in space. The claimed system comprises an imager and a reception device. The imager projects an original holographic image onto the area. The claim has been amended to clarify that the claimed system comprises first and second beam splitters. The first beam splitter generates the reference and object beams, which interfere at a sensing surface of the reception device. The second beam splitter directs light from the light source to the imager. Support for the claim amendments may be found throughout the application as filed originally, included Figure 1 and its associated text.

Applicant submits that claim 1 is not obvious in view of cited references for several reasons:

First, neither Arnon nor Bell teach or suggest using first and second beam splitters to generate the reference, object, and imaging beams.

Second, neither Arnon nor Bell teach or suggest "determining a difference pattern between an interference pattern for the original holographic image and an interference pattern for the image sensed by the reception device," as recited in claim 1. The Office states that Bell discloses this feature at col. 5:51-57. Bell is directed to a device that allows interaction between a person and a computer display system using the person's movement and position as input to the computer. Bell's system uses a co-located camera and projector. The image of the person is captured by the camera and

transmitted to the computer, which uses an object detection algorithm to generate a real time video effect. The real time video effect is transmitted to the projector, which projects the video effect. See Bell at col. 4:23-34. Bell discloses subtracting video input from the model image of the background, but this is not the same as “determining a difference pattern between an interference pattern for the original holographic image and an interference pattern for the image sensed by the reception device.” Indeed, Bell does not use holographic images at all.

Third, a person having ordinary skill in the art would not be motivated to modify Arnon’s device based on Bell since Bell has nothing to do with holography. Bell’s image analysis techniques would not result in usable information if used with holography. Holographic pattern analysis does not employ a “background” image as used in Bell, but rather a fully detailed, three dimensional interference pattern. 2-D image analysis techniques, such as used in Bell, will not determine the position of a user’s interaction within a holographic image. Indeed, the simple spatial relationship of a user and a holographic interference pattern are completely obscured in the interference pattern. For example, if a user interacts with a holographic pattern, say on the left side, that does not mean that there will be a change on the resulting pattern on the left side. In fact, with holography, a small interaction with the image will result in a slight change to the entire interference pattern not just in one (spatial) area as with the image. As a result, a person of ordinary skill in the art, having read Arnon and Bell, would not come up with the invention claim 1 based on Arnon and Bell.

Therefore, applicant submits that claim 1, and its dependent claims, are not obvious in view of the cited references. For analogous reasons, applicant submits that claim 16 and its dependent claims are not obvious in view of the cited references.


CONCLUSION

Applicant respectfully submits that all of the claims presented in the present application, as either amended or initially presented in this response, are in condition for allowance. Applicant's present Amendment should not in any way be taken as acquiescence to any of the specific assertions, statements, etc., presented in the Office Action not explicitly addressed herein. Applicant reserves the right to specifically address all such assertions and statements in subsequent responses.

Applicant has made a diligent effort to properly respond to the Office Action and believe that the claims are in condition for allowance. If the Examiner has any remaining concerns, the Examiner is invited to contact the undersigned at the telephone number set forth below so that such concerns may be expeditiously addressed.

Respectfully submitted,

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